

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

	Application Number	10/672,302
	Filing Date	September 26, 2003
	First Named Inventor	Hong Jin
	Group Art Unit	1648
	Examiner Name	Unassigned
Total Number of Pages in This Submission	Attorney Docket Number	26-000320US

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Response	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input checked="" type="checkbox"/> Additional Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	USPTO Form 1449; Cited References (35); receipt acknowledgment postcard
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Small Entity Statement	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Authorization to Charge Deposit Account Please charge Deposit Account No. 50-0893 for any additional fees associated with this paper or during the pendency of this application, including any extensions of time for consideration of the documents enclosed.	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	Remarks	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Jonathan Alan Quine, Reg. No. 41,261, Quine Intellectual Property Law Group, P.C.
Signature	
Date	January 27, 2004

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Typed or printed name	Amelia Weintraub		
Signature		Date	January 27, 2004



I hereby certify that this correspondence is being deposited with the United States Postal Service first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450, on January 27, 2004

QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

By *Amelia Weintraub*
Amelia Weintraub

Attorney Docket No. 26-000320US
Client Ref. No. NS210P2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Hong Jin, et al.

Application No.: 10/672,302

Filed: September 26, 2003

For: FUNCTIONAL MUTATIONS IN
RESPIRATORY SYNCYTIAL VIRUS

Examiner: Unassigned

Art Unit: 1648

INFORMATION DISCLOSURE
STATEMENT UNDER 37 CFR § 1.97 and
§ 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

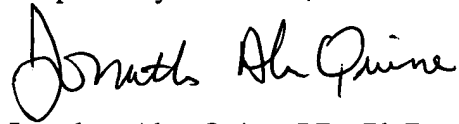
Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action on the merits per 37 CFR 1.97(b)(3). However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jonathan Alan Quine". The signature is fluid and cursive, with the first name "Jonathan" being more prominent.

Jonathan Alan Quine, J.D., Ph.D.
Reg. No. 41,261

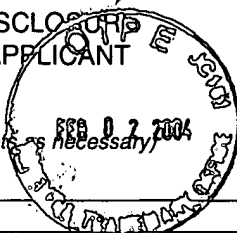
QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.
P.O. BOX 458
Alameda, CA 94501
(510) 337-7871
Fax (510) 337-7877

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A-B/PTO

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)



Complete if Known

Application Number	10/672,302
Filing Date	September 26, 2003
First Named Inventor	Hong Jin
Group Art Unit	1648
Examiner Name	Unassigned
Attorney Docket Number	26-000320US
Date Submitted	January 27, 2004

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
	01	5,922,326		Murphy et al.	07-13-1999	

FOREIGN PATENT DOCUMENTS

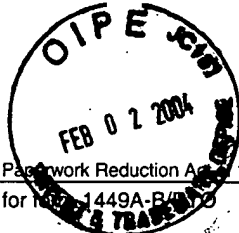
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	02	WO	02/44334	A2	Aviron, Inc.	06-06-2002		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	03	Ahmadian et al. (1999) Detection and characterization of proteins encoded by the second ORF of the M2 gene of pneumoviruses. J Gen Virol., 80:2011-2016.	
	04	Ahmadian et al. (2000) Expression of the ORF-2 protein of the human respiratory syncytial M2 gene is initiated by a ribosomal termination-dependent reinitiation mechanism. EMBO J., 19:2681-2689.	
	05	Anderson et al. (1985) Microneutralization test for respiratory syncytial virus based on an enzyme immunoassay. J Clin Microbiol., 22:1050-1052.	
	06	Asenjo et al. (2000) Regulated but not constitutive human respiratory syncytial virus (HRSV) P protein phosphorylation is essential for oligomerization. FEBS Lett 467:279-284	
	07	Barik et al. (1995) Phosphorylation of Ser ²³² Directly Regulates the Transcriptional Activity of the P Protein of Human Respiratory Syncytial Virus: Phosphorylation of Ser ²³⁷ May Play an Accessory Role. Virology 213:405-412	
	08	Bermingham et al. (1999) The M2-2 protein of human respiratory syncytial virus is a regulatory factor involved in the balance between RNA replication and transcription. Proc Natl Acad Sci U S A, 96:11259-11264.	
	09	Bukreyev et al. (1996) Recovery of infectious respiratory syncytial virus expressing an additional, foreign gene. J Virol, 70:6634-6641.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for Form 1449A-B (03/03)

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

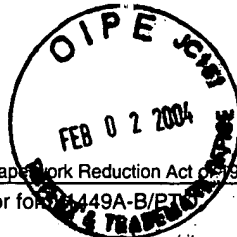
(use as many sheets as necessary)

Complete if Known

Application Number	10/672,302
Filing Date	September 26, 2003
First Named Inventor	Hong Jin
Group Art Unit	1648
Examiner Name	Unassigned
Attorney Docket Number	26-000320US
Date Submitted	January 27, 2004

10	Caravokyri et al. (1992) Assignment of mutant <i>tsN19</i> (complementation group E) of respiratory syncytial virus to the P protein gene. J. Gen Virol. 73:865-873		
11	Cheng et al. (2001) Chimeric Subgroup A Respiratory Syncytial Virus with the Glycoproteins Substituted by Those of Subgroup B and RSV without the M2-2 Gene are Attenuated in African Green Monkeys. Virology 283:59-68		
12	Cheng et al. (2002) Expression of β -galactosidase by recombinant respiratory syncytial viruses for microneutralization assay. J Virol Methods 105:287-96		
13	Collins et al. (1985) The envelope-associated 22K protein of human respiratory syncytial virus: nucleotide sequence of the mRNA and a related polytranscript. J Virol, 54:65-71.		
14	Collins et al. (1995) Production of infectious human respiratory syncytial virus from cloned cDNA confirms and essential role for the transcription elongation factor from the 5' proximal open reading frame of the M2 mRNA in gene expression and provides a capability for vaccine development. Proc. Natl. Acad. Sci. 92:11563-11567		
15	Dupuy et al. (1999) Casein Kinase 2-Mediated Phosphorylation of Respiratory Syncytial Virus Phosphoprotein P is Essential for the Transcription Elongation Activity of the Viral Polymerase; Phosphorylation by Casein Kinase 1 Occurs Mainly at Ser ²¹⁵ and is without Effect. J. Virol. 73:8384-8392		
16	Faulkner et al. (1976) Respiratory Syncytial Virus <i>ts</i> Mutants and Nuclear Immunofluorescence. J. Virol. 20:487-500		
17	Garcia-Barreno et al. (1996) Identification of Protein Regions Involved in the Interaction of Human Respiratory Syncytial Virus Phosphoprotein and Nucleoprotein: Significance for Nucleocapsid Assembly and Formation of Cytoplasmic Inclusions. J. Virol. 70:801-808		
18	Hardy et al. (1998) The product of the respiratory syncytial virus M2 gene ORF1 enhances readthrough of intergenic junctions during viral transcription. J Virol. 72: 520-526.		
19	Hardy et al. (1999) Diverse Gene Functions of Respiratory Syncytial Virus Modulate the Efficiency of Transcription Termination and Respond Differently to M2-Mediated Antitermination. J Virol. 73: 170-176.		
20	Hardy et al. (2000) The Cys ₃ -His ₁ Motif of the Respiratory Syncytial Virus M2-1 Protein is Essential for Protein Function. J. Virol. 74: 5880-5885.		
21	Jin et al. (1998) Recombinant Human Respiratory Syncytial Virus (RSV) from cDNA and Construction Subgroup A and B Chimeric RSV. Virology 251:206-214		
22	Jin et al. (2000) Recombinant Respiratory Syncytial Viruses with Deletions in the NS1, NS2, SH, and M2-2 Genes are Attenuated <i>in Vitro</i> and <i>in Vivo</i> . Virology 273:210-218		
23	Jin et al. (2000) Respiratory Syncytial Virus that Lacks Open Reading Frame 2 of the M2 Gene (m2-2) Has Altered Growth Characteristics and Is Attenuated in Rodents. J Virol 74:74-82		
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>	Complete if Known	
	Application Number	10/672,302
	Filing Date	September 26, 2003
	First Named Inventor	Hong Jin
	Group Art Unit	1648
	Examiner Name	Unassigned
	Attorney Docket Number	26-000320US
	Date Submitted	January 27, 2004

24	Jin et al. (2003) Evaluation of recombinant respiratory syncytial virus gene deletion mutants in African green monkeys for their potential as live attenuated vaccine candidates. Vaccine 21:3647-3652	
25	Khattar et al. (2001) Mapping the domains on the phosphoprotein of bovine respiratory syncytial virus required for N-P and P-L interactions using a minigenome system. J. Gen Virol. 82:775-779	
26	Lu et al. (2002) Identification of Temperature-Sensitive Mutations in the Phosphoprotein of Respiratory Syncytial Virus that are Likely Involved in its Interaction with the Nucleoprotein. J. Virol. 76:2871-2880	
27	Lu et al. (2002) The major phosphorylation sites of the respiratory syncytial virus phosphoprotein are dispensable for virus replication in vitro. J Virol. 76:10776-10784.	
28	Mallipeddi et al. (1996) Mapping the domains on the phosphoprotein of bovine respiratory syncytial virus required for N-P interaction using a two-hybrid system. J. Gen Virol. 77:1019-1023	
29	Marriott et al. (1999) A single Amino Acid Substitution in the Phosphoprotein of Respiratory Syncytial Virus Confers Thermosensitivity in a Reconstituted RNA Polymerase System. J. Virol. 73:5162-5165	
30	Slack et al. (1998) Characterization of the interaction of the human respiratory syncytial virus phosphoprotein and nucleocapsid protein using the two-hybrid system. Virus Research 55:167-176	
31	Tang et al. (2001) Requirement of Cysteines and Length of the Human Respiratory Syncytial Virus M2-1 Protein for Protein Function and Virus Viability. J. Virol. 75:11328-11335	
32	Techaarpornkul et al. (2001) Functional analysis of recombinant respiratory syncytial virus deletion mutants lacking the small hydrophobic and/or attachment glycoprotein gene. J Virol, 75:6825-6834.	
33	Teng et al. (2000) Recombinant respiratory syncytial virus that does not express the NS1 or M2-2 protein is highly attenuated and immunogenic in chimpanzees. J Virol, 74:9317-9321.	
34	Whitehead et al. (1998) A Single Nucleotide Substitution in the Transcription Start Signal of the M2 Gene of Respiratory Syncytial Virus Vaccine Candidate <i>cpts248/404</i> is the Major Determinant of the Temperature-Sensitive and Attenuation Phenotypes. Virology 247:232-239	
35	Zhou et al. (2003) Identification of amino acids that are critical to the processivity function of respiratory syncytial virus M2-1 protein. J Virol, 77:5046-5053.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.